

In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1 1. (Currently Amended) A method of providing a low cost
2 quantized nonlinear continuous coefficient curve scaler for
3 converting consistently spaced sampled input data into consistently
4 spaced resultant scaled data comprising the steps of:
5 providing a quantized coefficient table representing an
6 approximation of the nonlinear continuous curve, said table
7 including a plurality of sets of n coefficients, each set of n
8 coefficients summing to a normalization value of an integral power
9 of 2, and each coefficient of each set of n coefficients being an
10 integral factor of said normalization value;
11 applying said table in hardware to successively locate the
12 sets of n coefficients in the table; and
13 applying the located set of n coefficients to n corresponding
14 sampled input data via a scaling pipeline by summing the product of
15 each of said n coefficients and said corresponding sampled input
16 data to get resultant scaled data.

2 to 5. (Canceled)

1 6. (Currently Amended) The method of Claim 5 1 wherein said
2 nonlinear curve is $\sin(x)/x$.

7 to 9. (Canceled)

1 10. (Currently Amended) A quantized nonlinear curve scaler
2 comprising:
3 a series of latches for latching a stream of source data
4 wherein the content of the latches is the source data elements;

5 a quantized coefficient table storing an approximation of the
6 nonlinear continuous curve, said quantized coefficient table
7 including a plurality of sets of n coefficients, each set of n
8 coefficients summing to a normalization value of an integral power
9 of 2, and each coefficient of each set of n coefficients being an
10 integral factor of said normalization value;

11 a shift and add multiplier comprising a first adder and a
12 shifter for shifting and adding contents of each latch by
13 corresponding coefficients provided by said quantized coefficient
14 table to produce coefficient products of the source data elements;
15 and

16 a second adder for summing coefficient products from the
17 series of latches to provide the resultant data value.

11 to 14. (Canceled)

1 15. (New) The quantized nonlinear curve scaler of Claim 10
2 wherein:
3 said nonlinear curve is $\sin(x)/x$.